AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An optical encoder comprising:

a scale having an optical grating;

a plurality of photoreceptor elements that are movable relatively with respect to the scale and that are disposed in relation to a pitch of the optical grating;

a light source ~~means~~ having at least two light portions which irradiate ~~sources for irradiating~~ the photoreceptor elements through the scale ~~by using light rays~~ from at least two different directions; and

a controller which selectively switches ~~control means for switching~~ light-emitting status of the at least two light sources;

wherein the controller ~~control means~~ obtains relative-position information of the scale and the photoreceptor elements based on ~~by processing information obtained from~~ the light-emitting status of the light source and signals obtained from the plurality of photoreceptor elements before and after ~~when~~ the light-emitting status of the light portions ~~sources~~ is switched, and

wherein phase difference of the signals obtained from the photoreceptor elements before and after switching the light-emitting status is less than 90 degrees.

2. (Currently Amended) An optical encoder according to Claim 1, wherein a light-emitting position on the photoreceptor elements is changed when the light-emitting status of the light source is switched. ~~one of the at least two light sources is selectively caused to emit light, and wherein the relative-position information is obtained based on photoreception signals received by the photoreceptor elements in response to the light emitted.~~

3. (Currently Amended) An optical encoder ~~according to Claim 1, wherein a light-emitting position of the light sources is changed when movement of the scale is stopped, and wherein the relative-position information is obtained from information detected by~~

~~the photoreceptor elements when the light-emitting position of the light sources is changed.~~ comprising:

a scale having an optical grating;

a plurality of photoreceptor elements that are movable relatively with respect to the scale and that are disposed in relation to a pitch of the optical grating;

a light source having at least two light portions which irradiate the photoreceptor elements through the scale from at least two different directions; and

a controller which changes the light-emitting intensity of the at least two light portions respectively;

wherein the controller obtains relative-position information of the scale and the photoreceptor elements based on the intensity of the light portions and signals obtained before and after the light-emitting intensity of the light portions is changed.

4. (Currently Amended) An optical encoder ~~according to Claim 1, wherein intensities of light emitted by the at least two light sources are changed when movement of the scale is stopped, and the relative-position information is obtained from information detected by the photoreceptor elements when the intensities of light emitted are changed.~~ comprising:

a scale having an optical grating;

a plurality of photoreceptor elements each of which is positioned based on a pitch of the optical grating which is movable with respect to the photoreceptor elements;

a first light source for providing light to the photoreceptor elements from a first direction;

a second light source for providing light to the photoreceptor elements from a second direction; and

a controller which switches the light-emitting status of the first light source and the second light source,

wherein the controller is capable of acquiring relative-position information between the scale and the photoreceptor elements based on the light emitting status and signals obtained from the plurality of photoreceptor elements before and after the light-emitting status of the light portions is controlled in a different status, and

wherein phase difference of the signals obtained from the photoreceptor elements before and after switching the light-emitting status is less than 90 degrees.

5. (Cancelled)

6. (Currently Amended) An optical encoder comprising:

a scale having an optical grating;

a plurality of ~~movable~~ photoreceptor elements~~, wherein~~ each of which ~~photoreceptor elements~~ is positioned based on a pitch of the optical grating which is movable with respect to the photoreceptor elements;

a first light source ~~and second light source~~ for providing light to the photoreceptor elements from a first direction;

a second light source for providing light to the photoreceptor elements from a second direction; and

~~wherein the first light source provides light in a first direction, and wherein the second light source provides light in a second direction; and~~

a ~~switch for controlling~~ a controller which controls the intensity of the light-emitting status of the first light source and the second light source,

~~wherein the switch is capable of using the light emitting status of the first and the second light sources to acquire relative position information of the scale and the photoreceptor elements.~~

wherein the controller is capable of acquiring relative-position information between the scale and the photoreceptor elements based on the intensity of the light emitting status and signals obtained from the plurality of photoreceptor elements before and after the intensity of the light-emitting status is controlled in a different status.

7. (Cancelled)